



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 98608  
Las Vegas, NV 89193-8608

**MAY 08 1996**

L. Dale Foust  
Technical Project Officer  
for Yucca Mountain  
Site Characterization Project  
TRW Environmental Safety Systems, Inc.  
Bank of America Center, Suite P-110  
101 Convention Center Drive  
Las Vegas, NV 89109

ISSUANCE OF DEFICIENCY REPORTS (DR) YMQAD-96-D054 THROUGH  
YMQAD-96-D057 AND PERFORMANCE REPORT (PR) YMQAD-96-P026 RESULTING FROM  
YUCCA MOUNTAIN QUALITY ASSURANCE DIVISION'S (YMQAD) AUDIT YM-ARC-96-11  
OF LAWRENCE LIVERMORE NATIONAL LABORATORY (SCPB: N/A)

Enclosed are DRs YMQAD-96-D054 through YMQAD-96-D057 and PR  
YMQAD-96-P026 generated as a result of YMQAD Audit YM-ARC-96-11.

Please identify the corrective actions to be taken and implemented to  
correct the deficiencies. PR/DR Continuation Pages have been provided.  
Send the originals of your responses to Deborah Sult, YMQAD/QATSS,  
101 Convention Center Drive, Suite 640, Las Vegas, Nevada 89109.  
Responses to the DRs and PR are due 20 working days from the date of  
this letter. Extensions to due dates must be requested in writing, with  
appropriate justification, prior to the due dates.

If you have any questions, please contact either Robert B. Constable at  
794-5580 or Cynthia A. Humphries at 794-1336.

Richard E. Spence, Director  
Yucca Mountain Quality Assurance Division

YMQAD:RBC-1699

Enclosures:

1. DRs YMQAD-96-D054 through  
YMQAD-96-D057
2. PR YMQAD-96-P026
3. PR/DR Continuation Page

NH0311  
102.7  
WM-11

MAY 08 1996

L. Dale Foust

-2-

cc w/encls:

T. A. Wood, HQ (RW-14) FORS  
J. G. Spraul, NRC, Washington, DC  
S. W. Zimmerman, NWPO, Carson City, NV  
R. E. Monks, M&O/LLNL, Livermore, CA  
J. A. Blink, M&O/LLNL, Las Vegas, NV  
R. L. Strickler, M&O, Vienna, VA  
R. P. Ruth, M&O, Las Vegas, NV  
Records Processing Center

cc w/o encls:

W. L. Belke, NRC, Las Vegas, NV  
C. A. Humphries, YMOAD/QATSS, Las Vegas, NV  
D. G. Sult, YMOAD/QATSS, Las Vegas, NV

140048

**OFFICE OF CIVILIAN  
RADIOACTIVE WASTE MANAGEMENT  
U.S. DEPARTMENT OF ENERGY  
WASHINGTON, D.C.**

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NO. YMQAD-96-D054  
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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document:  
QARD DOE/RW-0333P, Revision 5

2 Related Report No.  
YM-ARC-96-11

3 Responsible Organization:  
Lawrence Livermore National Laboratory

4 Discussed With:  
R. Monks

5 Requirement/Measurement Criteria:  
Section 2.2.2, "Classifying Items."

The QA program shall apply to the following, which shall be included on the Q-List (Items A through G).

Section 2.2.3, "Controlling Activities."

- A. The QA program shall apply to site characterization data and samples.
- B. The QA program applies to activities related to items on Q-List.
- C. The QA program shall apply to those activities that provide data used to assess the potential dispersion of radioactive materials from the licensed facility.

Section 2.2.4, "Applying QA Controls."

QA Controls (grading) to be applied.

6 Description of Condition:

- 1) 033-YMP-QAP 2.8, Revision 4, "Quality Assurance Grading." This procedure provides a process or methodology of taking Participant Planning Sheet (PPS) (PSA03) statement of work designated on the PPS that the "QARD applies to this effort," and grade the work or activity out to be either Non-Quality affecting or specifies what QA requirements apply.
- 2) QAG-L-020, Revision 1, indicates the activity is not subject to the QARD. The PPS Work Breakdown Structure (WBS) 1.2.2.5.1 states the QARD applies to this effort.
- 3) QAG-L-038, Revision 1, indicates the activity is not subject to the QARD. The PPS WBS 1.2.2.4.1 states the QARD applies.
- 4) QAG-L-014, Revision 2 indicates activity is not subject to the QARD. The PPS states the QARD applies.

7 Initiator *Donald J. Harris*  
Donald J. Harris Date 04/24/96

9 QA Review  
QAR *Donald J. Harris* Date 5-1-96

10 Response Due Date  
20 Working Days From Issuance

11 QA Issuance Approval  
QAR (PR)/AOQAM (DR) *[Signature]* Date 5/8/96

12 Remedial Actions:

13 Remedial Action Response By:  
Date

14 Remedial Action Due Date  
Date

15 Remedial Action Response Acceptance  
QAR Date

16 PR Verification/Closure  
QAR Date

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**DEFICIENCY REPORT**

**17 Recommended Actions:**

Revise the QA Grading Report to reflect of PPS for the WBS activities or incorporate the QA requirements in the Activity Plan or Scientific Investigation Plan.

NOTE: All PPS' includes a statement when the QARD applies or does not apply.

**18 Investigative Actions:**

**19 Root Cause Determination:**

**20 Action to Preclude Recurrence:**

**21 Response by:**

Date

**22 Corrective Action Completion Due Date:**

**23 Response Accepted**

QAR

Date

**24 Response Accepted**

AOQAM

Date

**25 Amended Response Accepted**

QAR

Date

**26 Amended Response Accepted**

AOQAM

Date

**27 Corrective Actions Verified**

QAR

Date

**28 Closure Approved by:**

AOQAM

Date

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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document: 033-YMP-QP 4.1, Revision 3, CN 4.3-3-1, CN 4.1-3-2	2 Related Report No. YM-ARC-96-11
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3 Responsible Organization: Lawrence Livermore National Laboratory (LLNL)	4 Discussed With: R. Monks
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5 Requirement/Measurement Criteria:  
 Sections 4.1.5.4.1 and 4.1.5.4.3 requires that the QA Manager review QARD revisions vis-a-vis the Generic QA Requirements Specification and revise this specification, as appropriate. Additionally, based on revisions to the Generic QA Requirements Specification, Task Leaders are to review and revise, as appropriate, Subcontract QA Requirements Specifications.

6 Description of Condition:  
 The Generic QA Requirements Specification has not been revised since 7/1/91, nor is there evidence that this Specification has been reviewed vis-a-vis the various QARD revisions issued since July 1991.

The Subcontract QA Requirements Specification for Argonne National Laboratory (ANL) and Pacific Northwest Laboratory (PNL) have not been revised since September 1992, although annual evaluations were performed in October and February of 1995, respectively.

7 Initiator John E. Therich <i>[Signature]</i> Date 4/30/96	9 QA Review QAR <i>[Signature]</i> Date 4/30/96
10 Response Due Date 20 Working Days From Issuance	11 QA Issuance/Approval QAR (PRI/AOQAM/DRI) <i>[Signature]</i> Date 5/8/96

12 Remedial Actions:

13 Remedial Action Response By:  Date	14 Remedial Action Due Date  Date
15 Remedial Action Response Acceptance  QAR Date	16 PR Verification/Closure  QAR Date

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**DEFICIENCY REPORT**

**17 Recommended Actions:**

Determine if the QA requirements invoked on ANL and PNL work is consistent with present QARD requirements.  
Evaluate the methodology in QP 4.1 to determine if this process is consistent with LLNL current procurement needs.  
Examine the procurement interfaces associated with ANL, PNL, LLNL and the Civilian Radioactive Waste Management System Management and Operating Contractor.

**18 Investigative Actions:**

**19 Root Cause Determination:**

**20 Action to Preclude Recurrence:**

**21 Response by:**

Date

**22 Corrective Action Completion Due Date:**

**23 Response Accepted**

QAR

Date

**24 Response Accepted**

AOQAM

Date

**25 Amended Response Accepted**

QAR

Date

**26 Amended Response Accepted**

AOQAM

Date

**27 Corrective Actions Verified**

QAR

Date

**28 Closure Approved by:**

AOQAM

Date

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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document:  
033-YMP-QP 12.0, Revision 6

2 Related Report No.  
YM-ARC-96-11

3 Responsible Organization:  
Lawrence Livermore National Laboratory (LLNL)

4 Discussed With:  
D. McCright / R. Monks

5 Requirement/Measurement Criteria:

Section 12.0.4, states in part: "The M&TE Master Status List identifies the M&TE authorized for use on the YMP. ...Principal Investigators and Task Leaders will request and place the appropriate stickers or reasonable facsimiles on YMP instruments used for quality affecting activities...."

6 Description of Condition:

Contrary to the above requirements, the current Measuring and Test Equipment (M&TE) Master Status List of Calibrated Instruments, dated 4/18/96, states that there are no calibrated instruments. However, four M&TEs are currently in use and collecting quality affecting data in support of the Metal Barrier Study (Work Breakdown Structure 1.2.2.5.1). Two Potentiostat/Galvanostats, Model 283 (LLNL/DOE Property No. 8032230) and Model No. 273 (LLNL/DOE Property No. 4053581), Orion pH Meter, Model 520A (no unique ID identified), and Sartorius Analytical Balance (ID#4273774) are utilized to collect quality affecting data for the aforementioned studies.

Additionally, instruments identified above were not labeled with appropriate stickers or reasonable facsimiles, as required.

7 Initiator

*Richard L. Weeks*  
Richard L. Weeks Date 5/1/96

9 QA Review

QAR *Richard L. Weeks* Date 5/1/96

10 Response Due Date

20 Working Days From Issuance

11 QA Issuance Approval

QAR (PR)/AOQAM (DR) *[Signature]* Date 5/8/96

12 Remedial Actions:

Evaluate the calibration status of each instrument utilized to collect quality affecting data. Upon assurance that M&TE identified in Block 6 is calibrated as required, add to the M&TE Master Status List of Calibrated Instruments. Label M&TE as required.

13 Remedial Action Response By:

Date

14 Remedial Action Due Date

Date

15 Remedial Action Response Acceptance

QAR

Date

16 PR Verification/Closure

QAR

Date

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**DEFICIENCY REPORT**

**17 Recommended Actions:**

Investigate the impact of the use of M&TE for which the calibration is indeterminate on the collection of quality affecting data. Provide actions to preclude recurrence of the identified deficient conditions.

**18 Investigative Actions:**

**19 Root Cause Determination:**

**20 Action to Preclude Recurrence:**

<b>21 Response by:</b>  Date	<b>22 Corrective Action Completion Due Date:</b>
<b>23 Response Accepted</b>  QAR Date	<b>24 Response Accepted</b>  AOQAM Date
<b>25 Amended Response Accepted</b>  QAR Date	<b>26 Amended Response Accepted</b>  AOQAM Date
<b>27 Corrective Actions Verified</b>  QAR Date	<b>28 Closure Approved by:</b>  AOQAM Date

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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document:  
033-YMP-QP 2.1, Revision 6

2 Related Report No.  
YM-ARC-96-11

3 Responsible Organization:  
Lawrence Livermore National Laboratory

4 Discussed With:  
D. McCright / R. Monks

5 Requirement/Measurement Criteria:

Section 2.1.1, states in part: "All quality affecting work performed in support of YMP is accomplished according to controlled procedures and documents..."

6 Description of Condition:

Contrary to the above requirement, quality-affecting work for Metal Barrier Studies identified in Activity Plan E-20-43 and 44, "Critical Pitting Potential Measurements and Critical Crevice Potential Measurements," is being conducted; however, the Activity Plan has not yet been approved and issued. Additionally, TIP-YM-6, Revision 0, "Measurement of the pH of Aqueous Solutions with Glass Electrode," which is utilized for the collection of quality-affecting data from the Orion pH meter was not a controlled copy.

7 Initiator

*Richard L. Weeks*  
Richard L. Weeks

Date 5/1/96

9 QA Review

QAR *Richard L. Weeks*

Date 5/1/96

10 Response Due Date

20 Working Days From Issuance

11 QA Issuance Approval

QAR (PRI)/AOCAM (DR)

Date 5/8/96

12 Remedial Actions:

Approve and issue Activity Plan E-20-43 and 44.

Obtain a controlled copy of TIP-YM-6.

13 Remedial Action Response By:

Date

14 Remedial Action Due Date

Date

15 Remedial Action Response Acceptance

QAR

Date

16 PR Verification/Closure

QAR

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**17 Recommended Actions:**

Investigate the impact of conducting quality affecting work to an unapproved Activity Plan. Attention should be given to specific activities that may be impacted by resolution of unresolved review comments.

Investigate the impact of conducting quality affecting work to a TIP that has not been controlled per program requirements.

Provide an action plan to ensure that documents required to conduct quality affecting work are approved, issued, and controlled prior to the start of work.

**18 Investigative Actions:**

**19 Root Cause Determination:**

**20 Action to Preclude Recurrence:**

**21 Response by:**

Date

**22 Corrective Action Completion Due Date:**

**23 Response Accepted**

QAR Date

**24 Response Accepted**

AOQAM Date

**25 Amended Response Accepted**

QAR Date

**26 Amended Response Accepted**

AOQAM Date

**27 Corrective Actions Verified**

QAR Date

**28 Closure Approved by:**

AOQAM Date

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**PERFORMANCE/DEFICIENCY REPORT**

1 Controlling Document:  
033-YMP-QP 2.8, Revision 4, "QA Grading"

2 Related Report No.  
YM-ARC-96-11

3 Responsible Organization:  
Lawrence Livermore National Laboratory

4 Discussed With:  
R. Monks

5 Requirement/Measurement Criteria:  
Paragraph 2.8.5.3, "QA Grading Reviewers, Appointed by the Project Leader."  
The Task Leader (TL) initiates the QA Grading Review by notifying the Project Leader.....  
  
If the TL and TAL are the same, QA Grading Review is accomplished by the Project Leader or designee.

6 Description of Condition:

The term TL has been cancelled. The procedure has not been revised to remove the TLs responsibilities or coordinate with the QA Grading Report Review Record Form YMP075, Revision 8 (Grading Report LLNL-QAG-L082) which removed the TL.

7 Initiator *Donald J. Harris*  
Donald J. Harris Date 04/24/96

9 QA Review  
QAR *Donald J. Harris* Date 5/1/96

10 Response Due Date  
20 Working Days From Issuance

11 QA Issuance Approval  
*Donald J. Harris*  
QAR (PR)/AOQAM (DRI) Date 5/1/96

12 Remedial Actions:

13 Remedial Action Response By:  
  
Date

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Date

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QAR Date

16 PR Verification/Closure  
  
QAR Date

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